Reviewer’s report

Title: Interaction of sleep quality and psychosocial stress on obesity in African Americans: the Cardiovascular Health Epidemiology Study (CHES)

Version: 1 Date: 8 June 2010

Reviewer: Helen Skouteris

Reviewer’s report:

Major Compulsory Revisions

The aim of this study was to examine the association between sleep quality and BMI and determine whether this association is modified by psychosocial stress. The introduction does not provide a clear rationale for your study nor are the aims clear. There is a whole literature on stress and sleep deprivation, yet this is not outlined or used to create the rationale for this study.

The first aim stated is “to test whether sleep quality is inversely correlated with BMI and obesity”. An additional aim, is to “test whether the above putative association is positively modified by psychosocial stress, i.e., people with higher stress will exhibit more obesity than people of lower stress”. You have not tested that. Instead, you have reported that general perceived stress interacts with sleep quality continuous; there appears to be an increased relative risk in the medium stress group compared to the other two groups yet this is not mentioned. Your data suggest that stress may moderate the association between obesity and sleep quality; hence, your initial aim needs to reflect this investigation of these three variables and the inter-relationship between them.

You also suggest at the end of your Results section that this interaction may increase the likelihood of obesity; given the cross-sectional nature of this research, causation needs to be treated with caution.

How was CVD comorbidity assessed?

Was no dietary intake information a limitation?

Can your findings be generalised to AA men given the high proportion of women in the study?

It is surprising that no family income information was collected. The perceived stress may be due to financial stress or food insecurity. Socio-economic disadvantage is a strong predictor of obesity. Obesity combined with food insecurity presents a greater risk for major weight retention in women post the birth of the babies. Some discussion of this link and literature is needed and recommendations for future research in terms of really understanding what type of stress may be contributing to the association between obesity and sleep quality. The other point to consider that other psychological variables, such as depression, are known to be related to both obesity and sleep quality – is it...
stress or some other psychological factor that is impacting here, given that no other psych variables were measured?

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:
'I declare that I have no competing interests'